

The Doorway™

A Publication of The Gill Corporation

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Volume 55 • Number 1 • Winter 2019



Going the
Distance
to Get it **DONE**

P.O.A.

A term used by
Boeing, meaning
parts on assembly.



Going the Distance to Get it **DONE**

During the last four decades, millions of Americans have cast aside their Monday through Friday blue and white collars for the mantle of a weekend-warrior. The rise of the home improvement movement made it popular for the masses to experience the satisfaction that comes when you roll up your sleeves and get your hands dirty at home installing the latest upgrade for better function, comfort or design aesthetic.

Every weekend-warrior knows the frustration that comes when it's 4:00 p.m. on a Sunday afternoon, you are 95% done with a new installation and you realize one of the critical parts to finish the job is missing or broken. If you aren't able to reach the hardware store, replace the part and finish the install before it's time to call it a night, the big reveal gets pushed back another week.

Seasoned weekend-warriors are accepting and all too familiar with project delays, but that won't fly when you're in business. Surviving in this economy means you deliver what you sell on time or your customer will go somewhere else. The Gill Corporation is proud to partner with major OEM customers like The Boeing Corporation, and we have worked hard to become a preferred supplier. Trust is earned through years of hard work, building relationships and delivering quality products on time. Boeing is our customer but Boeing answers to someone, too. When Boeing sells an aircraft, their priority is getting that plane to the hanger on time.

Purchasing a commercial aircraft is not for the faint of heart, so once a commercial airline operator signs the purchase agreement, getting that plane in the air as soon as it hits the tarmac is paramount. If you got sticker shock when you bought your first new car, imagine the paperwork financing a multi-million-dollar aircraft.

Besides the initial cost of the aircraft, the logistics of filling every seat, on every aircraft, on every flight is a daunting task. It's like a well-choreographed theatrical event. Much like live theatre, there are always unexpected surprises which could translate into operating delays; so, after a buyer commits, they demand the manufacturer delivers those planes on time and ready to fly.

Average Price

747
\$387.2 million¹

6 million parts²

767
\$202.6 million

3.1 million parts³

777
\$344.2 million

3 million+ parts

787
\$270.9 million

2.3 million parts

¹ <https://www.fool.com/investing>

² <http://787updates.newairplane.com/787-Suppliers/World-Class-Supplier-Quality>

³ <https://web.archive.org/web/20010716094702/http://www.boeing.com:80/commercial/767family/facts.html>

When you consider the complexity behind modern aircraft design, it's no mystery why having every moving part ready during assembly can sometimes be a challenge. If the assembly process is interrupted by missing or broken parts, the results could be calamitous. Therefore, identifying a back-up source for every part and minimizing the time required to get those parts shipped and onto the assembly line can be an extensive process.⁴

A cursory examination of the specs to build an aircraft reveals a staggering list of parts, processes and personnel involved before an aircraft takes to the skies.

These figures help to explain the challenges associated with getting an aircraft in service. It also underlines the importance of being

prepared from the day the ink dries on the contract to the moment an aircraft makes her maiden flight.

This is where an experienced supplier partner like The Gill Corporation performs like a star. The Gill Corporation is one of the world's largest manufacturers of honeycomb, high-performance floor panels, cargo compartment liners and original equipment for passenger and freighter aircraft. The company also excels in many other types of reinforced plastics, including interior sandwich panels for creating structures such as aircraft galleys and bulkheads, honeycomb core, fabrication, precision machining and related products.



⁴ <https://www.airspacetechnologies.com/blog/the-dangers-of-aogs-to-the-aerospace-industry>



The Gill Corporation has 74 years of innovation, quality and manufacturing experience in the aerospace industry working with tier-one and tier-two manufacturers and original equipment manufacturers (OEMs). As a valued supplier partner to a variety of OEM production programs, it is our responsibility to provide critical support (as needed) to the production line. Case in point: Parts on Assembly (POA) work on the Boeing 777.

Simply put, POA applies when an aircraft is currently in production when, during the aircraft assembly process, a part is damaged and requires replacement. By contract, the turnaround time for a replacement part is 24 hours. Consequently, the POA supplier must provide 24/7 response to the Boeing assembly line during production as this legacy program ramps down in parallel with the ramp up of the new 777X (777-9) program.

We are keenly aware of the urgency associated with getting an aircraft in service, so The Gill Corporation was



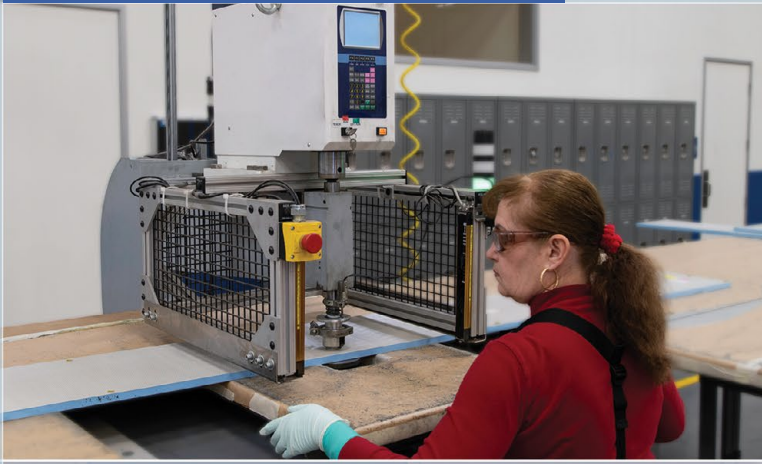
determined to allocate the appropriate resources necessary to show we live by the Quality Policy penned by our Chairman and CEO Stephen Gill: *“The Gill Corporation’s top priorities are to provide products and customer service that always meet or exceed customer requirements and continually improve the effectiveness of the quality management system.”*

Boeing is still building the B777s at the rate of five aircraft per month. The Boeing 777 (Triple Seven) is a long range wide-

body twin-engine jet airliner. The original 777-200 variant entered commercial service in 1995. It is the world’s largest twin jet and has a typical seating capacity of 314 to 396 passengers, with a range of 5,240 to 8,555 nautical miles.

As Boeing’s first fly-by-wire airliner, it has computer-mediated controls. It was also the first commercial aircraft to be designed entirely with computer-aided design. ⁵

⁵ https://en.wikipedia.org/wiki/Boeing_777



In August of 2018, Boeing transferred the 777 Legacy fabricated floor panel statement of work (SOW) to The Gill Corporation. The floor panels are fabricated assemblies where the panel is machined to a model, (for some, edge fill is applied), coordinate measuring machine (CMM) inspected, inserts installed, parts are assembled, inspected, kitted and then shipped in Boeing rotatable containers. Once The Gill Corporation took over the SOW, we became responsible for POA support for all of the existing aircraft in work in process (WIP). Concurrently, any POA needed is performed *in addition* to our normal manufacturing process flow.

Initial reports had suggested the B777 production line had a very high number of POAs, averaging approximately 30 per week. However, once the work was in-house, POA demand was significantly higher than expected, averaging closer to 50+ per week. This presented some unexpected hurdles to understand and address.

One of the most compelling yet obvious concerns was timing. Boeing requires 24-hour response once a POA notification is sent. When the POA alert arrives, we need to provide commitment dates within two hours of receipt of request. This is where working 24/7 really hit home.

The next obvious consideration was building the replacement parts. This required new floor panels with inserts, edge fill, and assembly. The Gill Corporation was awarded the B787 floor panel business in early 2014; so, with five years of experience delivering Boeing floor panels, we felt secure assuming this work. However, we quickly learned our production staff would need additional training, supplemental provisions and shop tools to support the build. It was humbling to stumble out of the gate but, faced with a steep learning curve and higher than anticipated scrap, we dug in, learned as we worked initial orders, became familiar with the new process and soon had things running as planned.

Building the replacement parts hinged on having the necessary raw materials on hand so purchasing those materials also came into play. With the higher than expected demand for POAs coupled with the scrap rate, we realized our raw material inventory was insufficient. Our program manager worked closely with purchasing to adopt a new mindset aimed at maintaining critical inventory levels of raw materials unique to POA.



Customer Service agent working after regular hours to process a POA order.



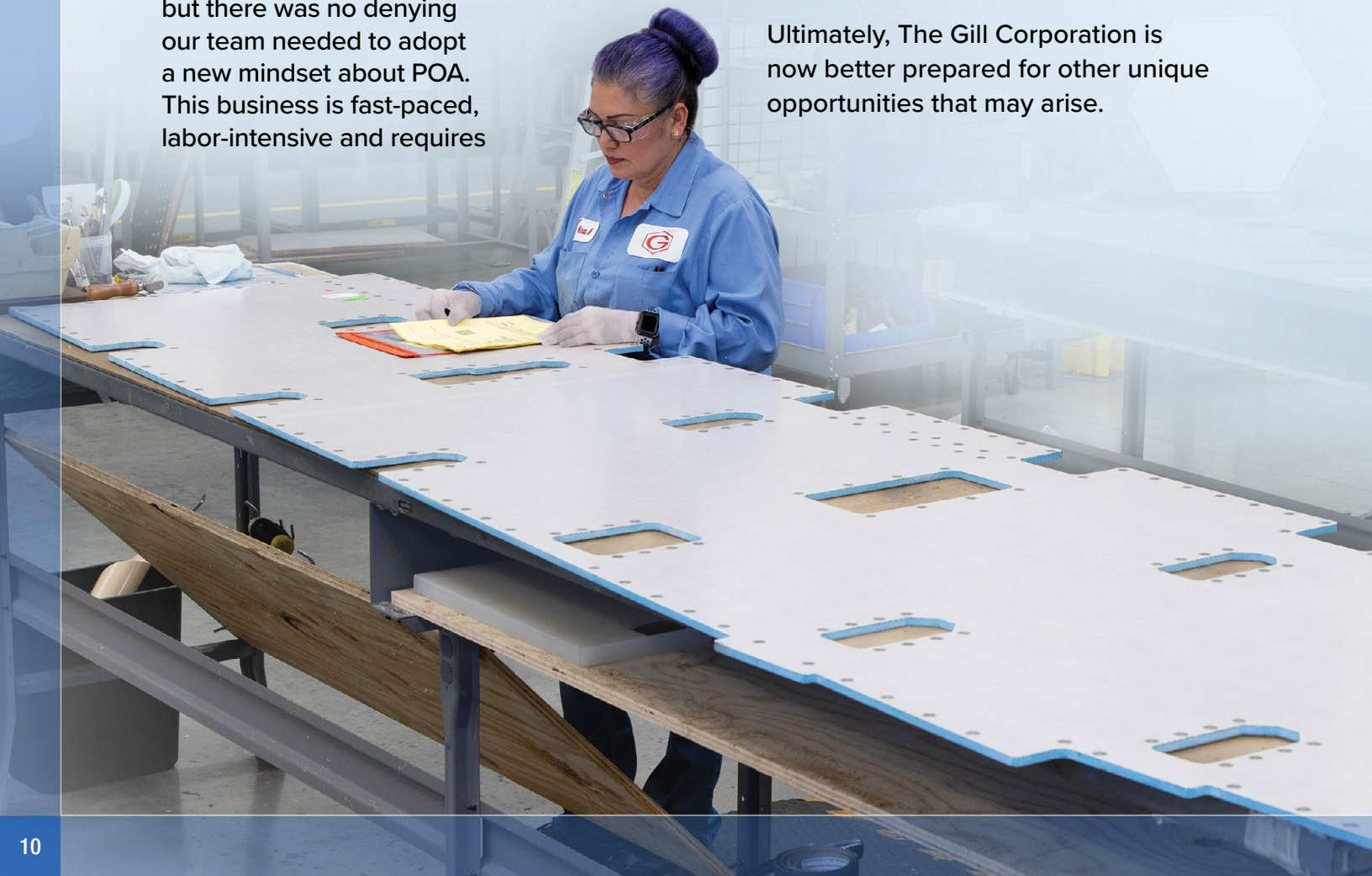
Concurrently, our shipping department was working through the new packaging paradigm that comes during a change to the way we've always done things. The Gill Corporation is a major supplier of panels, laminates and honeycomb, so we are experts at packaging and shipping large flat materials. The new POA finished goods are substantially different and require unique packaging before transport. Some of these parts are oversized, so standard FedEx freight services were not always an option. Initial test shipments produced a rash of parts that were damaged while in transit. This was one of the "surprises" that come when you take on new business. Instead of letting emotions take over, we stepped back, worked the problem and then got back on track.

Many of the challenges associated with POA were production- or process-oriented but there was no denying our team needed to adopt a new mindset about POA. This business is fast-paced, labor-intensive and requires

undeterred vigilance every step of the way. Eventually, our process evolved and we embraced some much-needed modifications to our work flow including:

- ◆ Hire a POA expediter
- ◆ Color code POA (orange) work orders on the floor
- ◆ Implement purchased part provisioning for inventory and forecast of purchased parts
- ◆ Implement purchased part replenishment process
- ◆ Better coordination of finished goods shipments with end user's transportation services (FedEx freight, counter-to-counter services, and chartered air freighters)
- ◆ Implement Strategic Stocking plan onsite at Boeing

Ultimately, The Gill Corporation is now better prepared for other unique opportunities that may arise.





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Being pro-active about embracing change, having a willingness to admit our shortcomings and working with Boeing on lessons learned helped us to successfully master POA and ultimately earn a standing ovation from our customers.

Trivia

TRICKY ACRONYMS

Guess what the following letters and numbers stand for. Example: 7 B F 7 B = Seven Brides for Seven Brothers

101 D = 101 Dalmatians

3 B M = 3 blind mice

T 10 C = The 10 Commandments

A B A T 40 T = All Baba and the 40 Thieves

T 7 W O T W = The 7 wonders of the world

12 S O T Z = 12 signs of the zodiac

T 3 W M = The 3 wise men

13 I A B D = 13 in a baker's dozen

26 L I T A = 26 letters in the alphabet

A T W I 80 D = Around the world in 80 days

2 W O A B = 2 wheels on a bike

52 C I A D = 52 cards in a deck

2 P I A Q = 2 pints in a quart

20,000 L U T S = 20,000 Leagues Under the Sea

12 I I A F = 12 inches in a foot

24 H A D = 24 hours a day

64 S O A C B = 64 squares on a chess board

H B S 16 = Happy Birthday Sweet 16

50 S I T U S A = 50 states in the USA

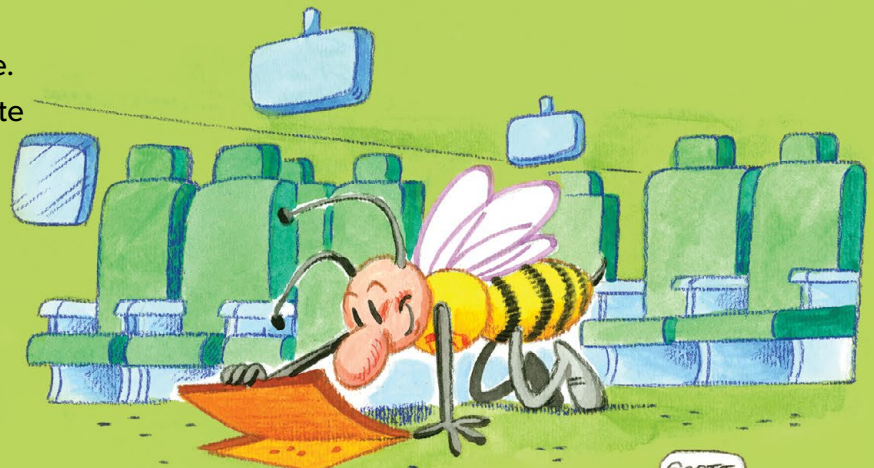
S W A T 7 D = Snow White and the 7 Dwarfs

THE FUNNY SIDE

AMUSING PUNS

- One podiatrist is a sole healer.
- I nearly bought a clock today but it wasn't the right time.
- Badly finished garments are unseemly.
- Ballet is best learned using proper steps and stages.
- Websites about wild cats usually have lynx.
- Being in debt attracts a lot of interest from bankers.
- Lumberjacks can keep accurate records because they understand logs.
- A big computerized dog needs a megabyte.
- Adding an extra floor to a skyscraper is quite another story.
- It's hard to explain puns to kleptomaniacs because they always take things literally.
- A broken window is a pain.
- Effective publicity in the bicycle industry depends on having a good spokesman.
- For a furniture corporation to succeed it needs a good chairman.

- Confusion in electrical businesses is often due to crossed wires.
- A damaged farm building is unstable.
- Winemaking after a poor grape harvest can be fruitless.
- Airlines process missing luggage complaints on a case-by-case basis.
- When tennis equipment is overpriced it's a racket.
- Single apples are not pairs.
- Serious campers are intense.
- The days of the pocket diary are numbered.
- Old bikes should be retired.
- If a leopard could cook would he ever change his pots?
- Do hungry time-travelers ever go back four seconds?



SCOTT SHAW!